***Our Future:  Where are we going?***

The Idaho Bureau of Laboratories is constantly looking for better ways to uncover and identify health threats.

Current efforts include utilizing new and rapidly evolving methods in molecular biology. The laboratory is currently investigating methods for DNA sequence detection and typing for *Norovirus*. This gastrointestinal virus can cause widespread illness, as has been witnessed by the Cruise industry over the past few years. Utilizing a DNA sequencer, we can identify and classify outbreaks of *Norovirus* more specifically and accurately.

In addition, past research using Polymerase Chain Reaction (PCR) methods for the detection of shigatoxins, a group of toxins in *E. coli*, the *Cholera vibrio*, and *Shigella* species that cause dysentery, were successful in helping to detect and determine food related outbreaks in pepperoni. These techniques have shown that not all dangerous *E. coli* in Idaho belongs to the infamous O157:H7 serotype.

The laboratory has developed, and is in the process of developing and validating, PCR techniques for the detection of bacteria and viruses that are difficult to grow, but which pose significant public health risks. Some of the PCR related tests that we currently use are *Bordetella pertussis* (Whooping cough), *Norovirus*, *West Nile Virus*, and many zoonotic diseases that could be used as agents of bioterrorism, such as anthrax and plague.